

# Roy Luo

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## TECHNICAL SKILLS

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**Languages:** Python, R, SQL, C, Bash

**Platforms and Tools:** PowerBI, SQL Server, Excel, Git

**Libraries:** pandas, NumPy, Matplotlib, Plotly, tidyverse, ggplot2

## EXPERIENCE

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### SimCorp Dimension Analyst Intern

May 2023 – August 2023

*Precision Insight Consulting*

*Markham, ON*

- Utilized the Data Format System (DFS) to import and load equity/bond trades, performing mapping to SCD transaction codes and applying formulas to ascertain instrument types for validation.
- Configured and managed batch jobs for the extraction of definitions from the transaction table, optimizing data handling and processing efficiency.
- Constructed a reference file documenting daily CAD/USD settlement, enhancing data accessibility and accuracy for analytical purposes.
- Effectively managed, reviewed, and allocated Jira tickets, ensuring seamless coordination and timely resolution of tasks.

## PROJECTS

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### Live Crypto Orderbook Dashboard | *R, SQL Server, PowerBI*

- Developed an R script to reformat live orderbook data from Coinbase's websocket feed.
- Uploaded and stored data in SQL Server, loaded it into PowerBI using DirectQuery and created live dashboard.
- Engineered an efficient data processing pipeline for real-time updates and maintenance of a structured dataset for further analysis.
- Maintained a near real-time cryptocurrency orderbook dashboard, displaying critical metrics like mid-market rate, order prices, market depth, and bid-ask spread.

### League of Legends Jungle Tracker | *Python, pandas, Plotly*

- Developed a Python application with a Streamlit UI to retrieve data from a REST API based on user input.
- Utilized pandas to process data, generating interactive Plotly visualizations on-demand.
- Implemented algorithms to identify specific players in ongoing matches and extract targeted data.
- Parsed through JSON data and handled API errors using requests library.
- Visualized players' in-game positions at defined time intervals in historical matches.

### UFO Sighting Data Analysis | *R, tidyverse, ggplot2*

- Processed and transformed Kaggle datasets using R's data science libraries, ensuring high data quality.
- Applied advanced data wrangling techniques, focusing on time series and geographic data to prepare the data for analysis.
- Conducted thorough exploratory data analysis, uncovering significant relationships and extracting actionable insights.
- Effectively communicated findings using engaging ggplot2 visualizations, enhancing data-driven storytelling.
- Analyzed UFO sighting data to shed light on the lack of conclusive evidence regarding the existence of extraterrestrial life.

## EDUCATION

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### University of Waterloo

*Honours Mathematics, Coop*

*September 2023 – April 2027*

### McMaster University

*Mathematics and Statistics*

*September 2022 – April 2023*